

**Amendments to the Drawings:**

The attached sheet of drawings includes a change to Fig 2 (reference number 105 has been deleted). This sheet, which includes Fig. 2 and 3, replaces the original sheet.

## REMARKS/ARGUMENTS

The specification has been amended on several pages to correct typographical errors that the Examiner kindly pointed out. In addition, pages 5, 7, and 8 have been amended to correct or add reference numbers 5, 7, 9, 15, 16, 22, 101, and 102 that are shown Figs. 2 and 3 and that were obvious errors or omissions in the specification. In addition, reference number 105 has been deleted from Fig. 3 because it is redundant with reference number 12. It is believed that these amendments render the specification and drawings consistent with each other and with the original teaching therein.

New dependent Claims 10 and 11 have been added as directed to subject matter whereby the detection of the random distribution of taggants is achieved using optical means, as described on page 9 (lines 5-9) of the original disclosure.

Claim 1 has been amended to clarify that the distribution of the taggant is optically detected.

### **Rejection Under 35 U.S.C. §102(b)**

Claims 1, 3-5, and 7 have been rejected as being anticipated by EP 0 583,709A1 (Naccache et al.). This rejection is respectfully traversed.

With respect to Claim 1, the Office Action argues that Naccache et al. discloses an identification device reader and a method of identifying memory cards. Naccache et al. is said to disclose a plastic card containing randomly distributed ferrite particles (tagging) that are mixed with plastic paste from which the card is produced. The Examiner considers the mixed ferrite particles to be invisible to the unaided human eye and the resulting card can be scanned with a magnetic inductance detector to read the emplacement of ferrite particles, thereby generating data. The data can be compared to expected characteristics to verify the ID.

The Office Action also argues that Applicant's Claim 3 is described by the reader in Naccache et al. and that Applicant's Claim 4 is described by the Naccache et al. device that includes memory means and an area in which the elements have a random distribution that can be detected, evaluated, and stored in the memory means. The Office Action further argues that

Applicant's Claim 5 is described in Naccache et al. because errors can be verified eventually by the memory means. Lastly, Applicants' Claim 7 is believed to be described in Naccache et al. because the reference describes a memory card prepared from ferrite particles mixed with the card plastic.

**Applicant's Rebuttal:**

Applicant respectfully disagrees with the anticipation rejection for the following reasons. Applicant's Claim 1 calls for optical detection of the taggant distribution. Naccache et al. does not describe this feature. It describes the detection of the random pattern of taggant ferrite particles by magnetic means not optical means. The use of optical scanning means described in Naccache et al. is merely to detect optical marks on the item or card, not the ferrite taggant itself (Col. 3, lines 19-25 and Col. 4, lines 9-14). The magnetic ferrite particles randomly distributed throughout the card are detected using an electromagnetic scanning device. Thus, the statement in the Office Action (bottom of page 4 to top of page 5) that "The issuing authority scans the card with a magnetic inductance detector (*optically detecting* and in proximity of item) and reads..." is incorrect. Magnetic inductance detecting is not optically detecting. The difference between optical detection and magnetic detection is elementary. Magnetic induction has nothing to do with radiation from the electromagnetic spectrum.

Thus, it is believed that the anticipation rejection is in error and should be withdrawn.

**Rejections Under 35 U.S.C. §103(a)**

I. Claim 2 has been rejected as being unpatentable over Naccache et al. in combination with Kaplan (PMPS Magazine Spring 2003 publication cited by Applicant).

With respect to Claim 2, the Office Action argues that Naccache et al. fails to describe the use of a printing ink and taggant but that this feature would be obvious from Kaplan as a cost effective way to deposit taggants onto an item such as packaging.

II. Claims 6, 8, and 9 have been rejected as unpatentable over Naccache et al.

With respect to Claims 6, 8, and 9, the Office Action argues that Naccache et al. discloses that the issuing authority of memory cards records data in the memory card, and that while the reference fails to disclose a verifying step, it would be obvious to a skilled worker to save the data in RAM instead of an unspecified memory means. Applicant's Claim 8 is considered obvious because it would be obvious to use the ferrite particles of Naccache et al. in only part of the card that is subjected to a reader, and it would be obvious to compare the newly read and calculated values of "s" to ensure authenticity of the card. The Office Action further argues that Naccache et al. discloses the use of a reader to read the "distribution" of ferrite particles forming an image with a chip reader, and to verify the authenticity of the card, and that it would be obvious to use a camera (Claim 9) rather than a reader to capture an image in the card.

III. Claim 9 has been rejected as unpatentable over Naccache et al. in combination with US 5,719,939 (Tel).

The Office Action argues that Applicant's Claim 9 is disclosed in Naccache et al. except for the use of an electronic camera. It is then argued that Tel discloses a system for verifying the legitimacy of a product against forgery using a scanning means in the form of a high-resolution camera. In addition, it is argued that the pattern has at least one additional identifying mark that may be scanned, and a converting means is taught so that scanned output can be changed into suitable useful data with predetermined algorithms. Thus, it is argued that the camera of Tel could be used in the detection means of Naccache et al.

Applicant's Invention:

The use of taggants is admittedly quite old, but as the counterfeiters or terrorists become more sophisticated in duplicating or identifying taggants on or in articles, the industry is continually seeking more secure means of securing or hiding taggants.

Applicant's claimed invention relies on random patterns of optically detectable taggants that are invisible to the unaided human eye. Moreover, it relies on the detection of random taggant distributions, not just that

the taggants are present, but that they are present in a unique random distribution that produces a pattern that can be compared to other patterns. Many optically detectable taggants are used in the art but they are not necessarily detected as random distribution patterns. It is because a taggant distribution is produced, that the detector, authentication systems, and methods of this invention can be used to compare a “read” distribution to what is expected. Thus, each tagged article or item has a unique taggant distribution that is optically detectable and comparable through suitable hardware and software to provide desired security and authentication. Further details of the advantages of the claimed invention are provided on page 3 of the specification.

Thus, the two key features of the claimed invention is the optical detection and comparison of taggant distributions. The invention provides a more quantitative determination rather than mere “yes/no” result to show the presence or absence of a taggant.

Applicant believes that each of the unpatentability rejections is in error and should be withdrawn. They are addressed in the order they occur in the Office Action.

Rebuttal of Rejection I:

As noted above, the Office Action gives lots of reasons why ink/taggant mixtures may be useful in various security contexts, but it fails to offer any common sense or technical reason why a skilled artisan such as Applicant would substitute the ink/taggant combination that is applied onto an article for the ferrite particles that are embedded within the article of Naccache et al. With the combination of Kaplan et al. with Naccache et al, the Office Action seems to be suggesting that two different taggants should be used, one magnetically detectable and the other possibly optically detectable. This is not suggestive of Applicant’s claimed invention (Claims 1 and 2 together) as Applicant is claiming that the feature of Claim 2 could supply the taggant that is optically detected. Applicant’s invention does not call for use of a magnetically detectable taggant as taught in Naccache et al, and thus, that teaching is irrelevant. The knowledge of useful inks to carry taggants onto articles from Kaplan et al. alone fails to teach or suggest the optical detection of a taggant distribution as called for in Claim 1 upon which Claim 2 depends.

Even if ink/taggant mixtures were applied to the cards of Naccache et al., there is no teaching in that reference as to how they could be used. It seems that the advantages described by Naccache et al. are directed to magnetic cards that can be used or swiped through magnetic readers. A taggant printed in ink on such cards would have no utility whatsoever in such instances. The two technologies are very different in purpose, detection, and usefulness, and so the combination of Kaplan with Naccache et al. doesn't make sense.

For these reasons, Rejection I should be withdrawn.

Rebuttal of Rejection II:

The Office Action admits that storing part of the data in RAM is not taught in Naccache et al. yet it provides no reasoning or basis for the mere conclusion that it would be obvious for a skilled worker to do so. Where is the evidence to support that conclusion? Where is the evidence that the Examiner is of sufficient skill in the art of the claimed invention that she could render such opinions without supporting facts in the record?

Even if the feature of Claim 6 is considered obvious, for argument's sake, it must be read in combination with Claim 1, and the combined subject matter is not taught or suggested in Naccache et al. for reasons pointed out above. Naccache et al. does not teach a skilled artisan how to optically detect a taggant distribution. It merely teaches detection of magnetic particles that are not optical in nature. Moreover, the detection system in Naccache et al. detects a representative number ("p") of ferrite particles in a specific location of the card (Col. 3, lines 20-24) not a distribution can potentially be throughout the card. This is not how the presently claimed invention is used.

Thus, even if some of the data can be stored in RAM, that feature is combined with the subject matter of Claim 1, and by virtue of this dependence, Claim 6 is likewise patentable.

The rejection of Claim 8 is also respectfully traversed. Claim 8 calls for "marking the item with a code related to the first data" in step c. This feature is not described or suggested in Naccache et al. because that reference teaches that data should be stored in a buried chip (see Col. 3, lines 23-25 and reference number 13 in Fig. 2). Storing data in an imbedded chip is not suggestive of "marking" the outside of an item with a code, for example, by

printing the code on the surface of the item (page 8, lines 19-20). Clearly, the combination of features in the authentication method of Claim 8, including the marking step c) is not suggested by the use of an embedded chip taught in Naccache et al. and the rejection of Claim 8 should be withdrawn.

Claim 9 has been rejected over the teaching in Naccache et al. also. This rejection is in error because, contrary to the opinion stated on page 9 (first few lines), it would not be obvious to use a camera to detect the taggant distribution since the taggant in Naccache et al. can only be detected using an electromagnetic scanning device. There is nothing optical about ferrite particles embedded in a card. Applicant's Claim 9 is directed to detection of the taggant distribution using an "optical" device, i.e. a camera. This is clearly not the same and not even remotely suggested by Naccache et al.

Rebuttal of Rejection III:

Claim 9 has also been rejected as obvious over the combination of Naccache et al. with Tel. The Office Action admits that Naccache et al. fails to teach or suggest the use of a camera, and uses teaching about electronic cameras in Tel to supply the missing teaching.

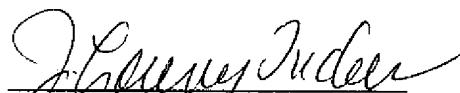
While Applicant admits the teaching of electronic cameras in Tel, he posits that any combination of that teaching with that of Naccache et al. fails to render Claim 9 obvious. For example, Naccache et al. already teaches the use of an optical "means" to detect scanning marks on (and not the taggants within) the card. If an electronic camera of Tel is used in the method of Naccache et al., it would be for that very purpose, as common sense would suggest. Nothing in either reference would suggest that the electronic camera of Tel should be used to detect the ferrite taggant particles of Naccache et al. That would be impossible or at least impractical. Thus, it makes no sense to use the electronic camera of Tel for anything other than what Naccache et al. already suggests—scanning the card for marks. Naccache et al. appropriately teaches the use of magnetic inductive (electromagnetic) means to detect the ferrite taggants. A camera would generally not detect the ferrite particles of Naccache et al., as they are incorporated or buried within the material of the card.

Applicants' Claim 9 is directed to different subject matter. It is directed to a taggant "detector" that includes a means for making the taggant

distribution detectable to the camera. Since this use of a camera is clearly different and not suggested by Naccache et al., Tel, or their combination, the unpatentability rejection of Claim 9 is incorrect and should be withdrawn.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the examiner is earnestly solicited.

Respectfully submitted,

  
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